

LISTING OF THE CLAIMS

1. (Previously Presented) A method for creating a nuclear reactor core template, comprising:

selectively assigning, using a graphical user interface providing a graphical representation of a nuclear reactor core, fuel bundle categories to fuel bundle positions in the graphical representation to create a template having as constraints that only a fuel bundle matching the assigned fuel bundle categories to the fuel bundle positions be allowed to be loaded in the fuel bundle position.
2. (Original) The method of claim 1, wherein the fuel bundle categories include fresh and locked, the fresh category indicating to insert an unexposed fuel bundle, the locked category indicating that a fuel bundle currently occupying an associated fuel bundle position in an actual nuclear reactor core remains in that position in creating a new nuclear reactor core loading map.
3. (Original) The method of claim 2, wherein the fuel bundle categories further include reinserted, the reinserted category indicates to insert a fuel bundle that has been exposed.
4. (Original) The method of claim 1, wherein the selectively assigning step includes setting a bundle group amount for a selected one of the fuel bundle categories, and selectively assigning the set bundle group amount of the selected fuel bundle category.
5. (Previously Presented) The method of claim 1, wherein the selectively assigning step includes selectively setting a symmetry associated with the set bundle group amount, the

symmetry indicating whether to repeat the selected fuel bundle category symmetrically in one or more quadrants of the graphical representation of the nuclear reactor core.

6. (Original) The method of claim 1, wherein
at least one category is fresh, the fresh category indicating to insert an unexposed fuel bundle; and

the selectively assigning step includes assigning a type designation to the fuel bundle positions assigned the fresh fuel bundle category.

7. (Original) The method of claim 1, wherein
at least one category is reinserted fuel bundles, the reinserted category indicates to insert a fuel bundle that has been exposed; and

the selectively assigning step including manually assigning a priority to each of the fuel bundle positions assigned the reinserted category, the priority indicating an order for loading exposed fuel bundles based on an attribute of the exposed fuel bundles.

8. (Original) The method of claim 1, wherein
at least one category is reinserted fuel bundles; and
the selectively assigning step including automatically assigning a priority to each of the fuel bundle positions assigned the reinserted category, the priority indicating an order for loading exposed fuel bundles based on an attribute of the exposed fuel bundles.

9. (Cancelled)

10. (Previously Presented) The method of claim 1, wherein the step of creating the template comprises editing an existing nuclear reactor core template by changing a fuel bundle category assigned to at least one fuel bundle position in the template.

11. (Original) The method of claim 10, wherein the fuel bundle categories include at least one of fresh, locked and reinserted, the fresh category indicating to insert an unexposed fuel bundle, the locked category indicating that a fuel bundle currently occupying an associated fuel bundle position in an actual nuclear reactor core remains in that position in creating a new nuclear reactor core loading map, and the reinserted category indicates to insert a fuel bundle that has been exposed.

12. (Cancelled)

13. (Previously Presented) The method of claim 10, wherein creating the existing nuclear reactor core template step comprises:

accessing a database of templates; and
selecting one of the templates for editing.

14. (Previously Presented) The method of claim 1, wherein the step of creating the template comprises:

deriving a loading template from a loading map of a selected cycle of nuclear reactor based on the user input parameters.

15. (Original) The method of claim 14, wherein the deriving step derives the loading template from the loading map of the selected cycle of the nuclear reactor and the loading map of a cycle previous to the selected cycle.

16. (Previously Presented) An apparatus for creating a nuclear reactor core template comprising:

a graphical user interface; and

a processor controlling the graphical user interface to display a graphical representation of a nuclear reactor core, and to provide a user with graphical tools for at least one of assigning fuel bundle categories to fuel bundle positions in the graphical representation and editing assigned fuel bundle categories to the fuel bundle positions in the graphical representation to create a template having as constraints that only a fuel bundle matching the assigned fuel bundle categories to the fuel bundle positions be allowed to be loaded in the fuel bundle position.

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